

Weekday/Weekend Ozone in the SoCAB: Supplemental Data Collection for Emissions Activities

**Prepared by:
Sonoma Technology, Inc.
Petaluma, CA**

**Presented to:
Weekend Effect Workgroup
California Air Resources Board
Sacramento, CA**

September 6, 2000

Project Sponsor



National Renewable Energy
Laboratory

Golden, Colorado

Emissions Activity Tasks

- Regional Data Collection (discussed previously)
 - Caltrans weight-in-motion (WIM) data
 - Major point source activity data
 - Surface street vehicle activity data
 - Area source activity data
 - Off-road mobile activity data

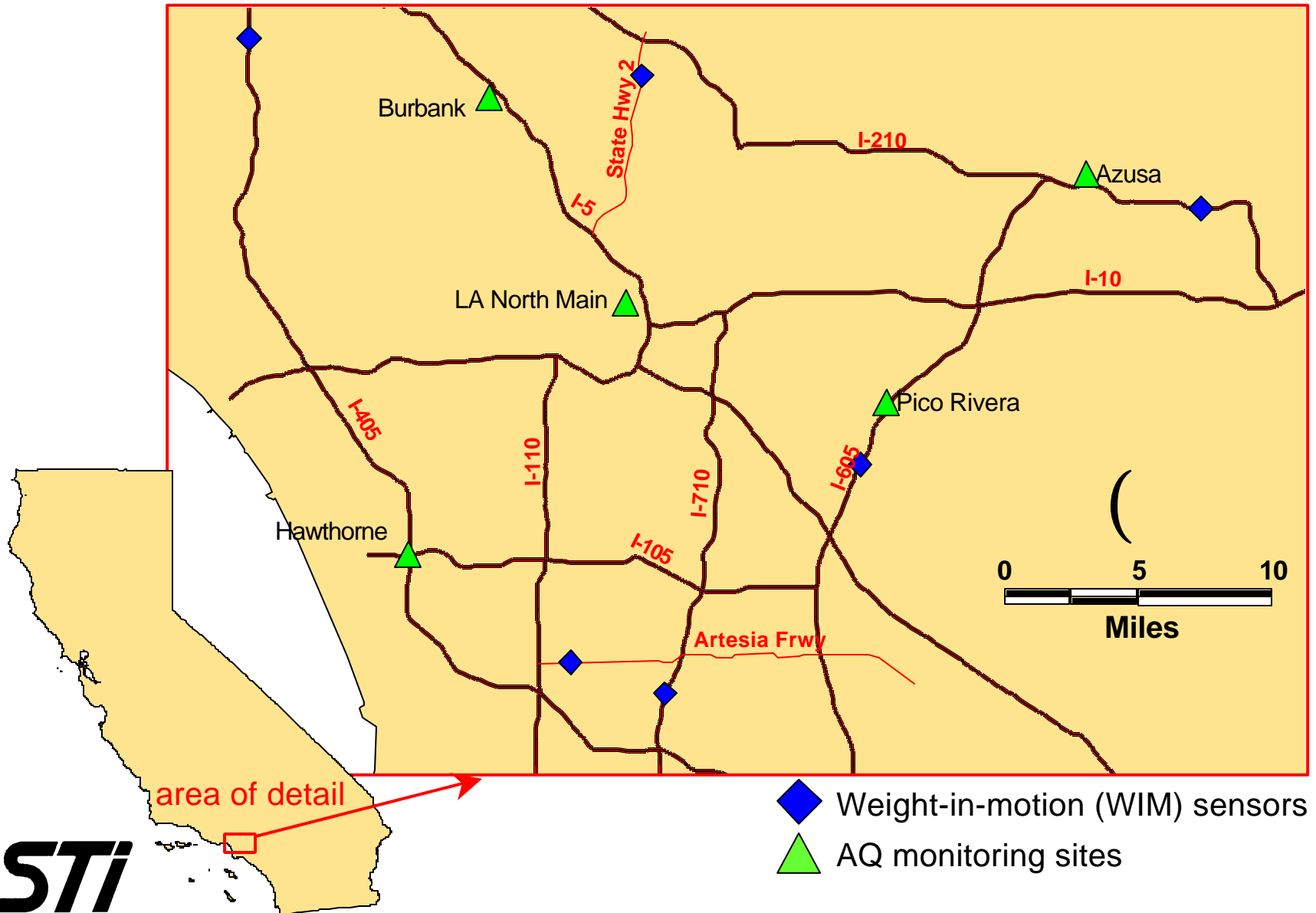


Emissions Activity Tasks



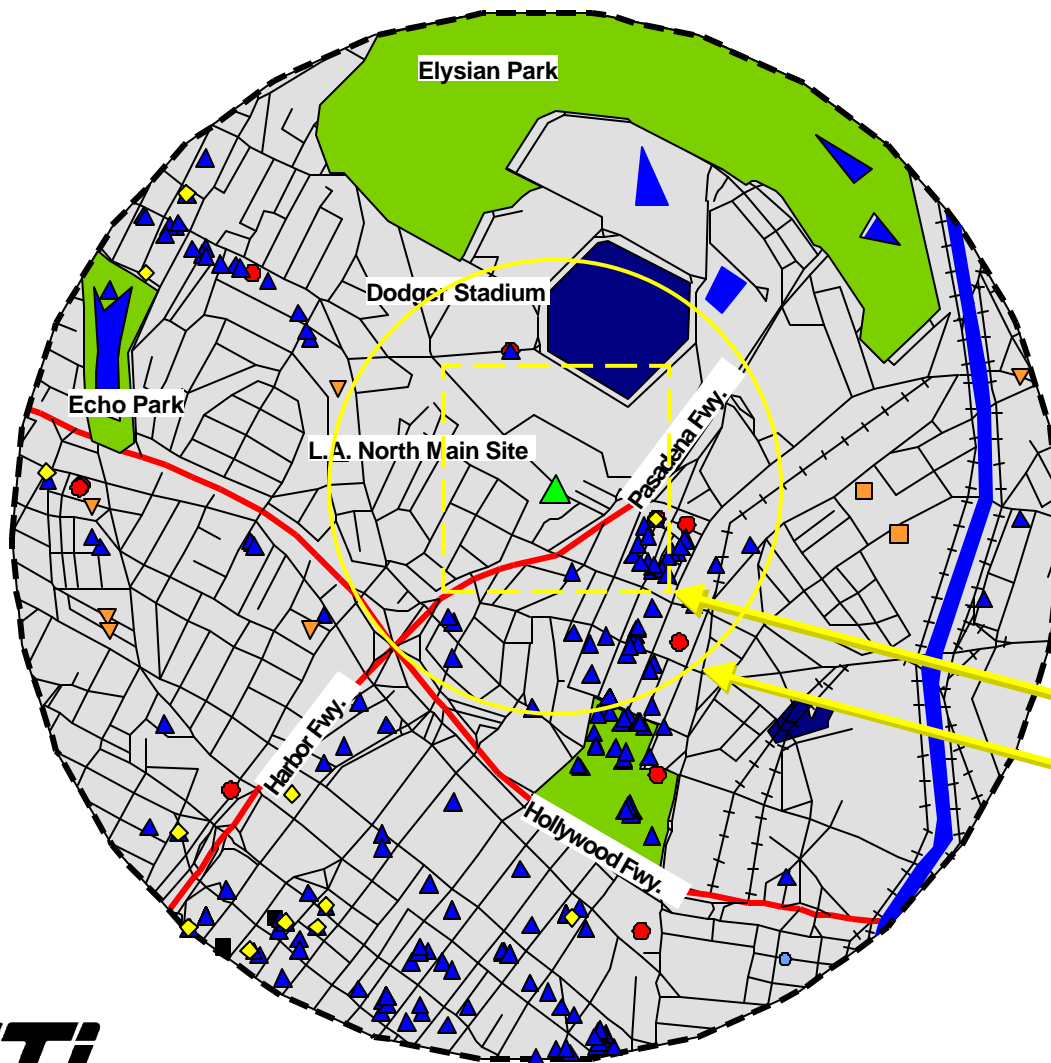
- Local Data Collection (newly added tasks)
 - Within 2 to 5 km of five surface AQ sites
 - Ground-truth surveys (2- x 2-km area)
 - Friday/Saturday site visits (2- x 2-km area)
 - Traffic counts (2-km radius)
 - Telephone surveys of homes, small businesses, and large facilities (2- to 5-km radius)
 - Aerial photography (5-km radius)

Monitoring Sites



LA North Main Site (5-km radius)

- Gasoline Service Stations
- ▲ Restaurants/Bakeries
- ▼ Dry Cleaning Facilities
- Existing or Previously Existing Traffic Count Site
- ◆ Automotive Repair Shops

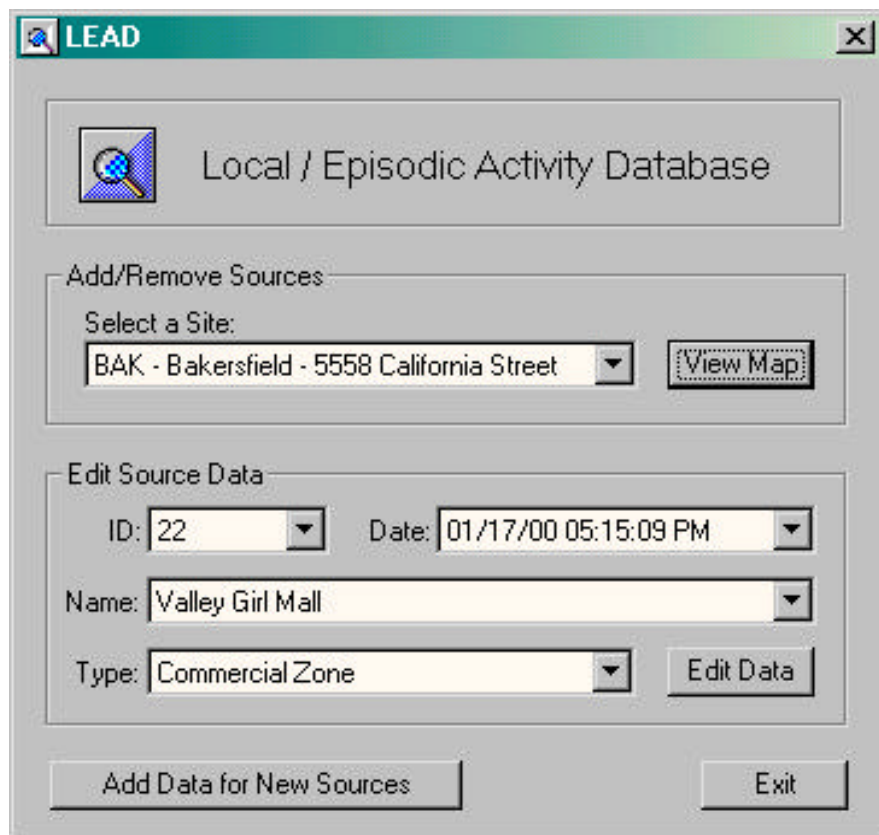


2- x 2-km square

2-km radius

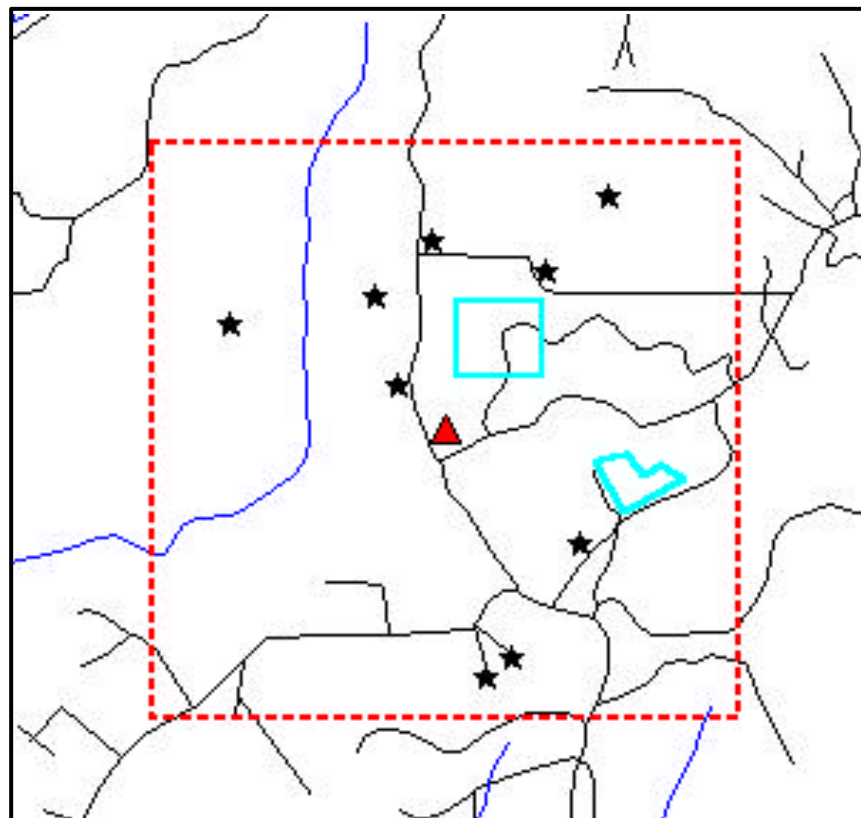
Ground Truth Surveys

Step 1. LEADS control panel.



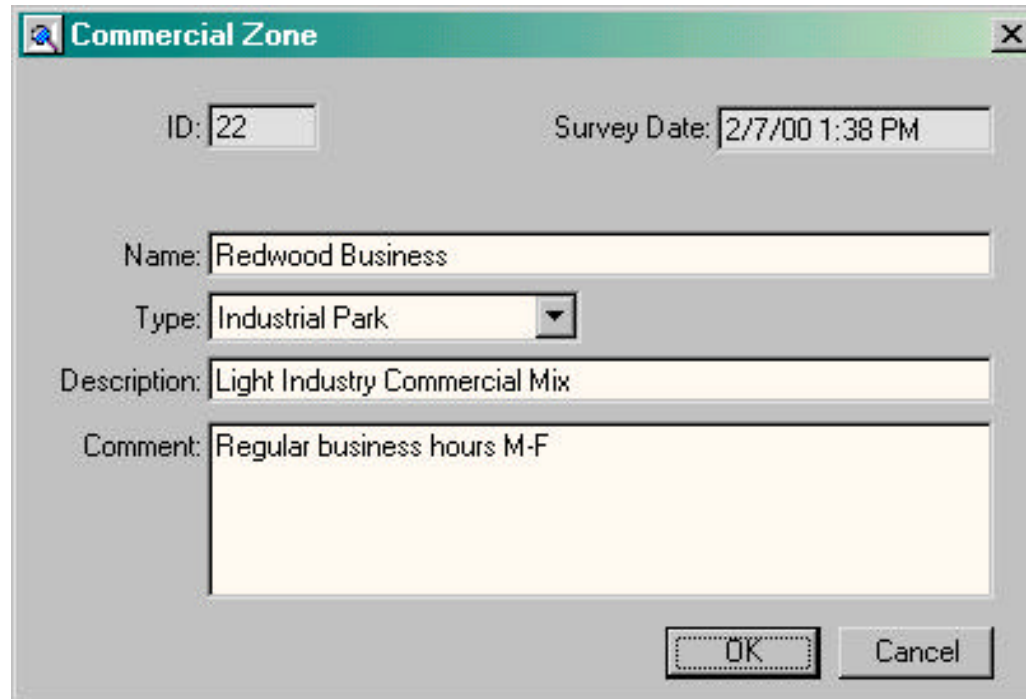
The screenshot shows the LEADS control panel window. At the top is a title bar with the text "LEAD" and a close button. Below the title bar is a section labeled "Local / Episodic Activity Database" with a magnifying glass icon. Underneath is a section titled "Add/Remove Sources" containing a "Select a Site:" dropdown menu with the text "BAK - Bakersfield - 5558 California Street" and a "View Map" button. Below that is a section titled "Edit Source Data" with fields for "ID:" (22), "Date:" (01/17/00 05:15:09 PM), "Name:" (Valley Girl Mall), and "Type:" (Commercial Zone), along with an "Edit Data" button. At the bottom are two buttons: "Add Data for New Sources" and "Exit".

Step 2. Add objects to electronic map.



Ground Truth Surveys

Step 3. Add descriptive information.



Commercial Zone

ID: 22 Survey Date: 2/7/00 1:38 PM

Name: Redwood Business

Type: Industrial Park

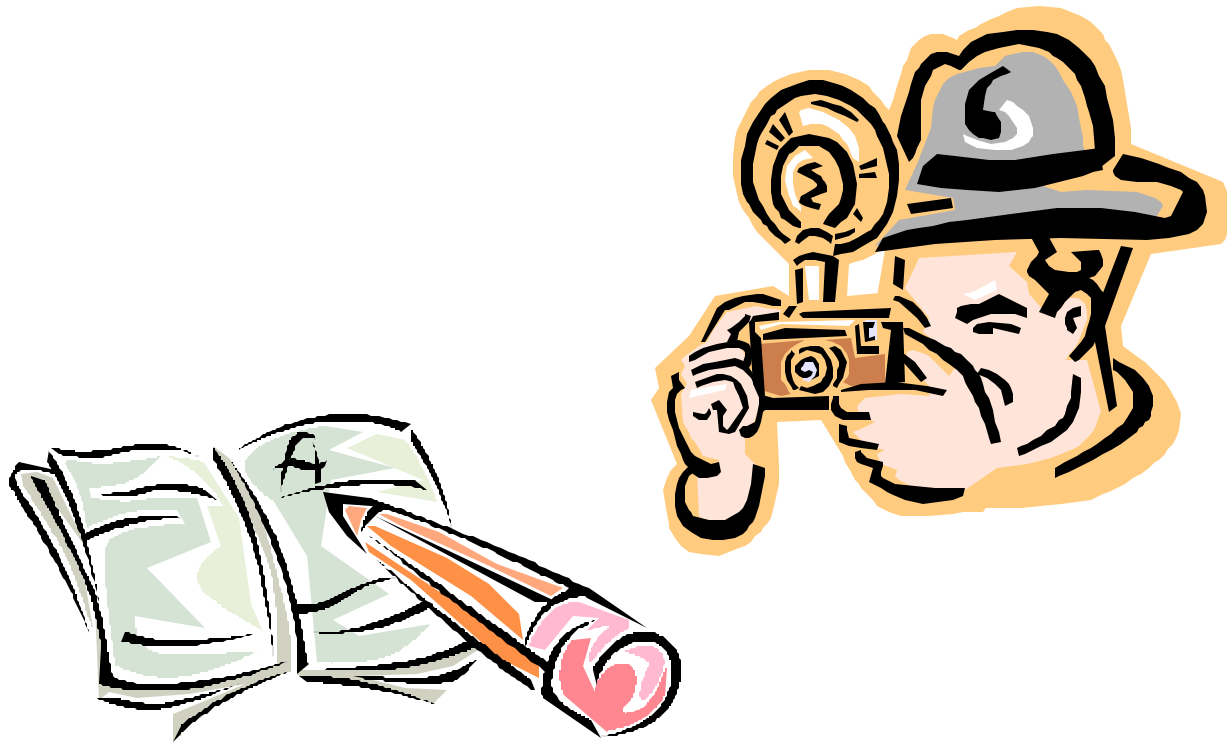
Description: Light Industry Commercial Mix

Comment: Regular business hours M-F

OK Cancel

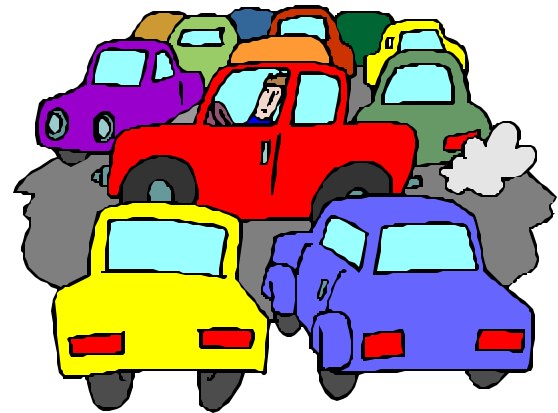
Friday/Saturday Site Visits

- Assign a field observer to spend two days in the vicinity of each monitoring site



Traffic Counts

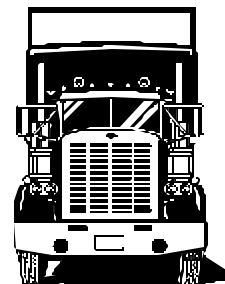
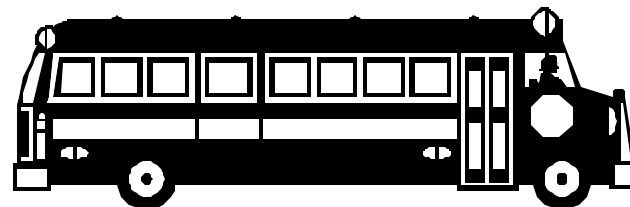
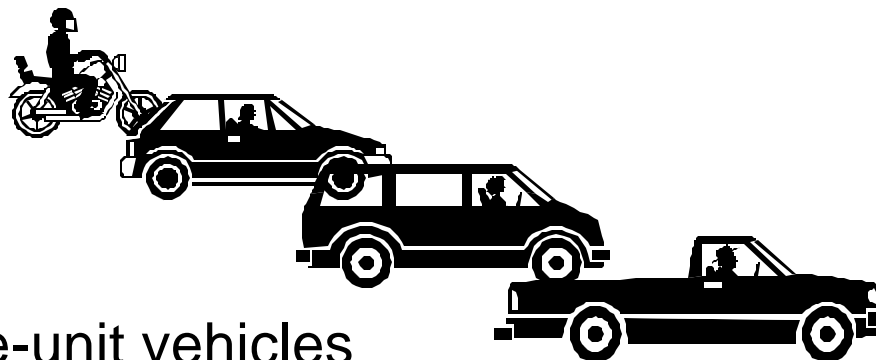
- Within 3 km of each monitoring site, deploy:
 - Two total traffic counters (one arterial/collector and one local road)
 - One vehicle-class counter (collocated with a total counter)
- Collect traffic counts for a period of 10 consecutive days (two weekends and one workweek).



Traffic Counts

Vehicle classifications

- Motorcycles
- Passenger cars
- Other 2-axle, 4-tire, single-unit vehicles
- Standard size 2-axle buses
- Single-unit trucks
 - 2-axle with six tires, 3-axle, ≥ 4 -axle
- Single-trailer trucks
 - ≤ 4 -axle, 5-axle, ≥ 6 -axle
- Multi-trailer trucks
 - ≤ 5 -axle, 6-axle, ≥ 7 -axle



Telephone Surveys



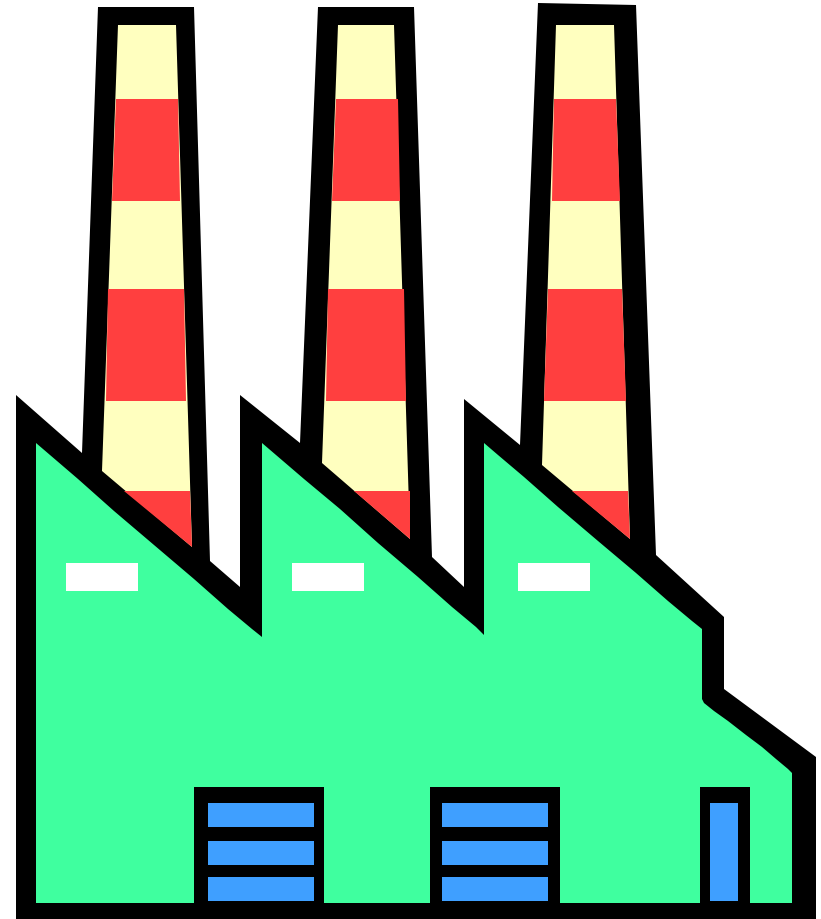
Homes and small businesses selected within 2 km of the monitoring sites

- Query about recent past, current, and immediate future activities.
- Example: Are you planning to do one of the following in the next couple of days? (Painting, yardwork, home improvements, etc.)

Telephone Surveys

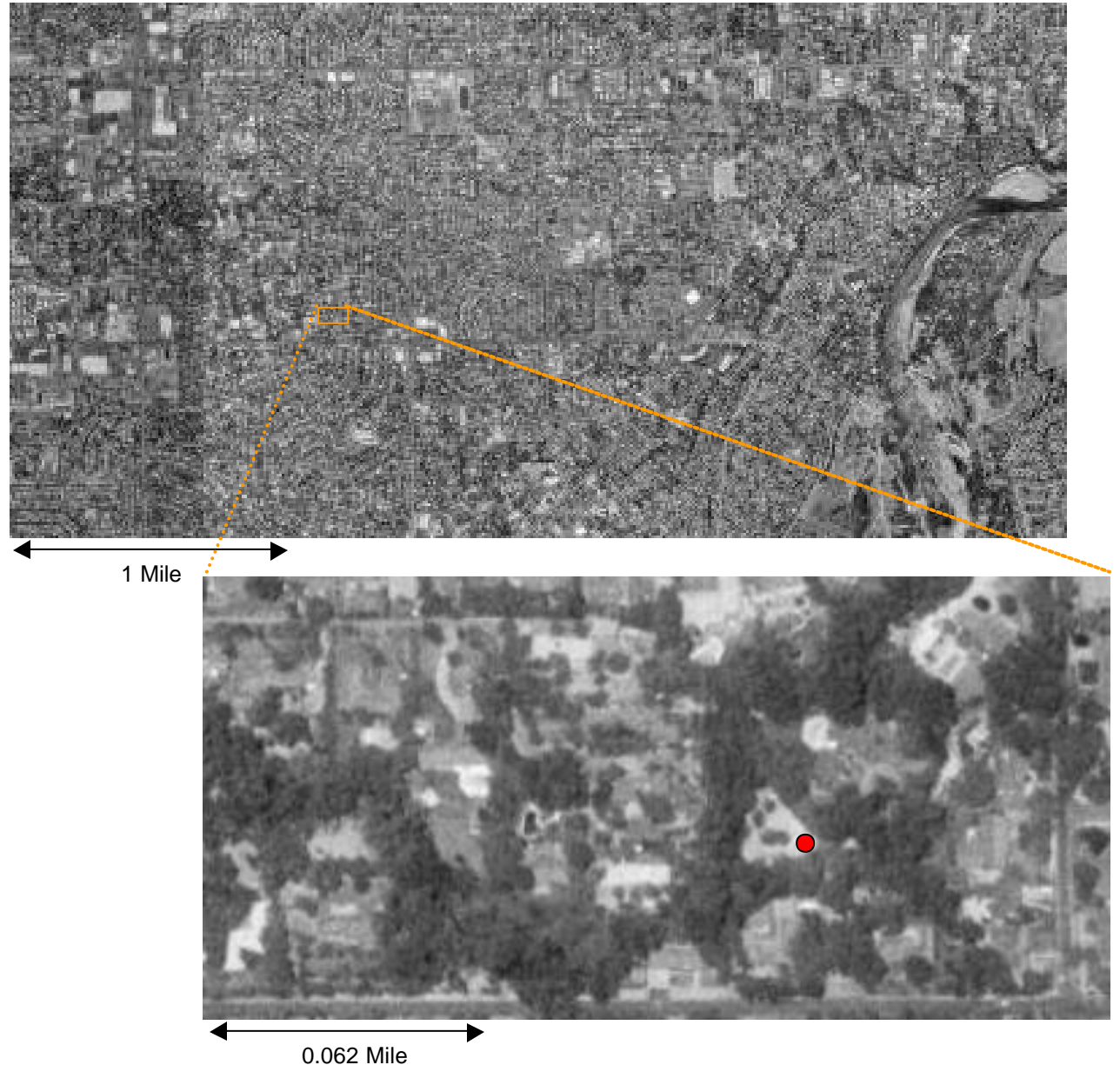
All point sources within
5 km of monitoring sites

- Query about operating schedules:
(1) What is the typical schedule? (2) What is the schedule for the period concurrent with the NREL study?
- Supplement with site visits, if needed.



Aerial Photography

- Acquire at different zoom levels
- Organize and Index
- Import to GIS
- Overlay points of interest
- Export as graphic objects



Data Summary and Analysis

- Document, QA, summarize
- Perform statistical and qualitative analyses of differences between weekend and weekday activity patterns
- Include with Project Final Report

